Review of: "Machine Learning Methods in Algorithmic Trading: An Experimental Evaluation of Supervised Learning Techniques for Stock Price"

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Potential competing interests: No potential competing interests to declare.

Contribution: The manuscript contributes to financial forecasting by providing an in-depth analysis and comparison of various machine-learning techniques for predicting stock and currency prices. It highlights the strengths of NBeats and NHits models in handling financial data, especially with limited data. It suggests these models can be valuable tools for investors and financial analysts. The study also offers insights into the potential implications of these findings for real-world applications.

Relationships with the relevant literature: The article effectively demonstrates the authors' understanding of the relevant literature in financial forecasting and machine learning. It extensively reviews various traditional statistical models, machine learning approaches, deep learning techniques, hybrid models, and ensemble methods, providing a comprehensive overview of the existing research. The literature review is well-integrated and supports the necessity of exploring advanced machine-learning techniques for financial predictions. However, some recent developments in the field, particularly those beyond 2022, might have yet to be included, indicating a potential limitation in the coverage of the literature.

Methodology: The article presents a clear outline of the research methodology, including data collection, preprocessing, model implementation, and evaluation metrics. Using various machine learning models such as NBeats, NHits, RNN, LSTM, and Transformers is appropriate for the research question. The data preprocessing steps are detailed and provide a clear understanding of how the input data were prepared for the models. The choice of evaluation metrics, including MSE, MAE, and RMSE, is appropriate for assessing the performance of the models. However, the article could benefit from a more detailed discussion of the specific parameters used in each model and the reasoning behind their selection.

Results: The results are presented in a tabular format, providing a comprehensive overview of the performance of each model in terms of MSE, MAE, and RMSE for different sequence lengths and epochs. The observations regarding the performance of NBeats, NHits, RNN, LSTM, and Transformers are well-explained, highlighting the strengths and limitations of each model. The discussion of the results effectively emphasizes the superiority of NBeats and NHits in handling local patterns and the challenges associated with capturing long-range dependencies. However, the article could further elaborate on the statistical significance of the observed differences in performance and provide a more detailed analysis of the implications of these results.

Implications: The manuscript acknowledges the implications of the findings for future research and practical applications, emphasizing the potential use of NBeats and NHits models for making informed decisions in the financial domain. The discussion reflects the conclusions drawn from the results and highlights the need to explore hybrid models and external market indicators further to enhance predictive capabilities. However, the article could provide a more extensive discussion on the practical implementation of the findings in real-world trading scenarios and the potential challenges of deploying these models.

Clarity of communication: The manuscript is well-structured and written clearly and concisely, making it accessible to a broad audience. The language used is appropriate for a scientific article, and the technical concepts are explained adequately. The use of figures and tables enhances the clarity of the presentation. However, the article could improve its clarity by providing more detailed explanations of the models' architectures and the specific methodologies used for data preprocessing and model evaluation.

Comments for manuscript improvement:

1. Expand the literature review to include more recent studies and developments in the field beyond 2022 to ensure comprehensive coverage.
2. Provide a more detailed explanation of the specific parameters used in each model and the rationale behind their selection.
3. Conduct a more in-depth statistical analysis to establish the significance of the observed differences in model performance.
4. Elaborate on the practical implications of the findings for real-world trading scenarios and discuss the challenges of implementing these models.
5. Enhance the manuscript's clarity by providing more detailed explanations of the models' architectures and the specific methodologies employed in data preprocessing and model evaluation.